DOCUMENT RESUME

ED 103 592 CE 003 157

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TITLE	The Perceptions of Selected Male Public High School Seniors Concerning Specialized and Comprehensive Post-Secondary Schools in Minnesota.
INSTITUTION	Minnesota Research Coordinating Unit for Vocational Education, Minneapolis.
PUB DATE	Aug 72
NOTE	63p.
AVAILABLE FROM	University of Minnesota Research Coordinating Unit, 145 Peik Hall, Minneapolis, Minnesota 55455 (No Charge)
EDRS PRICE	MF-$0.76 HC Not Available from EDRS. PLUS POSTAGE
DESCRIPTORS	College Choice; Comprehensive Programs; Educational Research; *Factor Analysis; Forced Choice Technique; High School Graduates; *High School Students; *Post Secondary Education; State Surveys; Student Attitudes; Student Characteristics; Student Interests; *Student Opinion; *Surveys; Technical Education; Vocational Schools
IDENTIFIERS	Minnesota

ABSTRACT

The study surveyed the perceptions of selected male public senior secondary students relative to the specialized and comprehensive types of public two year post-secondary schools in Minnesota. Their perceptions of both school related and non-school related factors were determined. Further, the relative importance of these two types of factors, as perceived by the students, was investigated. The survey instrument, used in three schools, measured student perceptions concerning the students' preferred school, attendance patterns, educational program patterns, and school factor and non-school factor importance. The data are analyzed and described separately for the vocational-technical and non-vocational-technical students within each high school. Findings are tabulated and discussed. Appended materials make up three-fourths of the document and include: (1) definitions of terms, school factors and non-school factors, (2) the research instrument, (3) tabulated research data, and (4) publications list. (Author/MW)

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The Perceptions of Selected Male Public High School Seniors Concerning Specialized and Comprehensive Post-Secondary Schools in Minnesota

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The Perceptions of Selected Male Public High School Seniors Concerning Specialized and Comprehensive Post-Secondary Schools in Minnesota

by Charles C. Kiefer

Minnesota Research Coordinating Unit
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August, 1972

TABLE OF CONTENTS

SUMMARY AND CONCLUSION

The problem was to determine the perceptions of selected male public senior secondary students relative to the specialized and comprehensive types of public two year post-secondary schools in Minnesota. The perceptions of factors which were inherent parts of either of these two organizations (school related factors) and factors which were not inherent parts of either of these organizations (non-school related factors) were also determined. Further, the relative importance of these school related and non-school related factors, as perceived by the students, was investigated.

An instrument was developed to elicit and measure student perceptions relative to Minnesota's public two year post-secondary educational organization. The perceptions were concerned with the students' preferred school, attendance patterns, educational program patterns, and school factor and non-school factor importance.

The study was carried out in three Minnesota public secondary schools. The data were described separately for the vocational-technical and the non-vocational-technical students within each high school through the use of percentage coefficients, the chi-square statistic, and the normal approximation to the binomial.

1. In a free choice situation, a majority of the students (55 percent) have a preference for either a specialized or a comprehensive school, while 45 percent of the students are "undecided". Under the free choice situation, and when the "undecided" students are forced to choose, more students prefer a specialized school than a comprehensive school (60 percent to 40 percent).

2. The students' attendance rate at public two year post-secondary schools is expected to be greater under the specialized or comprehensive system than under the present system. Thirteen percent more students would attend post-secondary schools under a comprehensive system, while 22 percent more students would attend under a specialized system than under the present system.

The students' educational program plans would be very stable if a specialized or a comprehensive system was established. Only seven percent of the students would change their educational program plans from those selected under the present system to another program area under a specialized system, while 10 percent would change under a comprehensive system.

3. The students perceive more advantages for their preferred school type (specialized or comprehensive) than for their unpreferred school type. Those who are "undecided" perceive a more nearly equal number of advantages for both school types.

The school factors selected more often as advantages for the specialized school include lower student cost, similar entrance requirements, homogeneous student body, better educational program transfer, variety of course offerings, and education like "real life" situations. Those selected for the comprehensive school include lower student cost, better educational program transfer, diverse faculty, variety of course offerings, heterogeneous students, education like "real life" situations, and heterogeneous programs.

4. The students are apt to change their school preferences to a greater extent under more extreme non-school factor conditions than under less extreme conditions. In terms of their effects upon changing the students' school preferences, the non-school factors of relative cost, program quality, student/faculty ratio, and placement/completion ratio are perceived as more important.

5. The vocational-technical and the non-vocational-technical students, while different in some areas, are generally similar with respect to the perceptions under investigation.

6. The students in the Elk River, Fridley, and North Senior High Schools, while dissimilar in some areas, are generally similar with respect to the perceptions under investigation. There is no evidence, however, that the foregoing conclusions are, or are not, applicable to all male high school seniors in the State.

BACKGROUND OF THE STUDY

Statement of the Problem

The problem of this research is to determine the perceptions of selected male public senior secondary students relative to the specialized and the comprehensive types of public two year post-secondary educational institutions in Minnesota. The perceptions of various factors which are inherent parts of either of these two organizational types (school related factors) and various factors which are not inherent parts of either of these two organizational types (non-school related factors) are also determined. Further, the relative strength of these various school related and non-school related factors is investigated.

The investigation is carried out separately for those male senior secondary students whose future plans are to enter a vocational-technical field (vocational-technical students) and for those whose future plans are to enter a non-vocational-technical field (non-vocational-technical students). The information is more useful to those concerned with the planning, organization, and administration of the public two year post-secondary educational programs, as well as to "interested others" in Minnesota, if it is provided in this form. Further, it is expected that these groups may differ concerning the perceptions under investigation.

Need for Research

The organizational form of public two year post-secondary education is an important issue in many states, and particularly in the state of Minnesota. Minnesota has an extraordinarily large student growth rate in all public two year post-secondary schools, and the growth rate in the vocational-technical education area is above the average.

It is currently anticipated that the unprecedented growth at the two year post-secondary level will continue in the future, although the rate may decline somewhat. Just six years ago, in 1965, only 33 public two year post-secondary schools existed in Minnesota. There were 18 area vocational-technical schools, 14 state junior colleges, and one technical college operated by the University of Minnesota. Currently there is a total of 54 public two year post-secondary schools in Minnesota. There are 33 area vocational-technical schools, 20 state junior colleges, and 2 technical colleges operated by the University of Minnesota. About 30 percent of the high school juniors wish to attend public two year post-secondary schools. The Minnesota Statewide Testing Service (1970) finds that 21.3 percent of the secondary school juniors in the State wish to continue their education at area vocational-technical schools and 8.6 percent wish to continue their education at state junior colleges upon completion of their secondary training.

The implications of this large growth rate for public two year post-secondary educational planning, organization, and administration are numerous. Among other things, they produce an overriding need for a statewide educational plan. It is essential that this plan be derived after a careful examination of many questions which impinge upon public two year post-high school education.

One of the major organizational questions is whether to place vocational-technical education and non-vocational-technical education in the same institutions (the comprehensive institution system) or whether to place vocational-technical education and non-vocational-technical education separately in specialized educational institutions (the specialized institutional system).

This question is under consideration by the Minnesota Legislature, the State Department of Education, the Junior College Board, the Higher Education Coordinating Commission, and by "interested others". While there has been much discussion concerning the issue, there is little research evidence to support either position at the present time. This study is a direct effort to provide useful research information concerning one aspect of this question.

Statement of Objectives

The research problem is composed of six major research objectives. Each explores an important facet of the research problem. These are the questions under investigation in this study:

1. What type of public two year post-secondary educational organization is preferred by the male senior secondary students?

2. How would the post-secondary attendance plans and educational program plans of the students change if the present system was made specialized or comprehensive?

3. What is the relative importance of the school factors in changing the students' preferences for the specialized and comprehensive institutions, and to what degree do these school factors overlap when utilizing institutional and individual importance measures and when comparing factors between the two school types?

4. What is the relative importance of the non-school factors, as the students perceive them, to change their preferences for the specialized and comprehensive institutions?

5. What differences exist among the perceptions of the future vocational-technical students and the future non-vocational-technical students?

6. What differences occur in the perceptions of the senior secondary students from the different high schools used in the study?

Appendix A contains definitions of terms, school factors, and non-school factors. The school and non-school factors are listed with their identifying letters which are used later in the report.

PROCEDURES

Research Design and Limitations

This study was a survey. The specific problem was to determine the perceptions of male public senior secondary students relative to the specialized and comprehensive types of public two year post-secondary educational organizations in Minnesota. It included the students' perceptions of various school related and non-school related factors. The problem was divided into six objectives upon which the study was based.

An instrument was developed to elicit and measure specific perceptions of the students relative to public two year post-secondary educational organizations in Minnesota. The specific perceptions concerned the type of school perceived to be of greater value (preferred school), the perceived attendance patterns, the perceived educational program patterns, and the importance of the perceived school and non-school factors. A minimal amount of biographical data about students was also obtained, but the students remained anonymous. Almost all the data were of the nominal type, with only a small portion of them being ordinal.

Two types of validity, face validity and content validity, were assessed during the instrument development process. Test-retest reliability was also determined from a sample of 33 subjects who were a subset of those in the population.

The population consisted of the male public senior secondary students who fulfilled various criteria in three Minnesota senior high schools. This population was divided into those who planned to enter training or work in a vocational-technical field after high school and those who planned to enter training or work in a non-vocational-technical field after high school.

The analysis was categorized on the educational program area dimension and on the high school attendance dimension. The method of analysis was primarily descriptive, using percentage coefficients to describe and compare the groups relative to the various research objectives. Non-parametric statistical tests were used to provide supportive information in some of the cases.

The study results were limited to the students of the three high schools involved in the study. All the results were organized on the school dimension as well as on the educational program area dimension. The conclusions, however, do investigate the consistency in the findings among the vocational-technical and non-vocational students from the three high schools.

Reliability of the Instrument

The test-retest method was used to calculate reliability. The index obtained from this method is often referred to as the coefficient of stability (Helmstadter, 1964). In this type of reliability, error was defined as anything that caused a person to receive a different score on one administration than on another. The extent to which the scores were the same on both administrations was the reliability. This was defined in terms of a decimal coefficient.

Since there was no overall score derived for a person completing the instrument, the reliability was calculated on an item by item basis. Each item had its own reliability. Each part had as its reliability the average reliability of the items within that part. The complete instrument reliability was composed of the average reliabilities of the items in the instrument.

With the exception of items numbered 12 and 13, each person may have had only one of two reliability values on each item, .00 or 1.00. This was the case because his answer must have been either identical or not identical to his previous answer. There was no half way. When the reliabilities were totaled across persons for each item, however, any reliability from .00 to 1.00 was possible.

Items numbered 12 and 13 are special cases because they deal with ranks. The reliability of ranks was determined by examining the particular items a person ranked both times and calculating the relative amount of those items ranked the same way both times. This decimal was the reliability for that person on that item. The reliability for the item was determined by taking the average reliability across people for the item in question.

The period of elapsed time between the first and second administrations of the instrument was three weeks. It was suggested by one source that the elapsed time between such administrations be at least several days but not longer than two or three weeks (Adams, 1964). Another source suggested that the elapsed time between administrations be at least two weeks (Nunnally, 1967). This allows enough time for the persons to forget their responses on the first administration but not enough time for them to change considerably on the trait being measured.

No clear restrictions exist as to the acceptable levels of reliability coefficients. Much lower reliabilities (on the order of .50) are tolerated for research purposes, however, than for the practical purposes of diagnosis and prediction (Guilford, 1954). Further, lower demands on reliability (coefficients also on the order of .50) are acceptable for evaluating and making decisions concerning group rather than individual accomplishment (Adams, 1964).

The reliability of the total instrument is .76. The individual reliabilities for each of the items were more important for this instrument, however, because a total score was not derived nor used. Comparisons were made with respect to large groups, not individuals, hence any items with a reliability coefficient below .50 were viewed with caution. The results obtained from items with reliabilities below .50 are stated tentatively. (There are seven such items.) See Table 16 in Appendix C for a list of item reliabilities.

There were 33 persons in the reliability sample. These persons were all members of the population as previously defined. They represented a heterogeneous sample of the respondents selected at the time of the first instrument administration. The instruments for the reliability group were identical with the others except that they contained a card with an identifying letter. This card was for the purpose of matching the same lettered instruments to the same people for the second administration. The reliability coefficients were calculated based on the responses that were identical on both administrations.

Population and Sample

The population consisted of the male public senior secondary students who were present on the day of instrument administration in the Elk River Senior High School, in the Fridley Senior High School, and in the North Senior High School. The population was divided into two groups based upon the students' response to item five in the questionnaire. One group was composed of those who planned to enter training or work in a vocational-technical field following high school. The other group was composed of those who planned to enter training or work in a non-vocational-technical field following high school.

Samples were drawn from the sub-populations in each of the three high schools separately. Each of the samples was composed of an equal number of students in the vocational-technical group and in the non-vocational-technical group. The smaller of the two groups in each sub-population was used in its entirety. A random sample was taken from the larger group to numerically equal the smaller group. The population and sample breakdown for each school is shown in Table 2 of Appendix C.

Instrument Administration

The instrument was administered in each school in a single day. For reliability purposes a second administration was given to a heterogeneous sample of students three weeks later. The dates of instrument administration in each school are shown in Table 1. Each instrument administration consumed approximately 25 to 40 minutes of student time, although there was no specific time limit imposed.

TABLE 1.

DATES OF INSTRUMENT ADMINISTRATION

Administration	High School: Elk River	Fridley	North
First	11/23/71	1/6/72	12/16/71
Second	12/14/71	--	1/6/72

The instrument was self-explanatory, containing its own directions and definitions. However, the instrument administrators were thoroughly familiar with it before the administration. The administrators were asked to answer any and all student questions concerning the items or methods of response that occurred during the administration. Further, they were asked to read the following general instructions prior to the administration:

> This questionnaire is part of a study designed to clarify the ideas of twelfth grade boys about Minnesota's two year post-high school education. By taking part in this study you are helping the people in your District and in the State to be more aware of your perceptions and needs. This is an excellent way through which you can make yourself 'heard'.
>
> The greatest benefit will come from the study only if you answer the items honestly and frankly. This is not a test. There are no 'correct' or 'incorrect' answers and no preferred pattern of answers. You may have as much time as you need to complete the items so please read each of them carefully. Please feel free to ask questions of the administrator at any time.
>
> Are there any questions now?
>
> If there are no more questions then you may begin. Raise you hand at any time if you have questions.

The students were asked not to put their names on the instruments. The heterogeneous sample of students for reliability purposes, however, was asked to put their names on small lettered cards attached to the instruments. These cards were then removed and given to the administrators. The administrators held the cards for the three week interim period. They then matched another set of similarly lettered questionnaires to the same students for the second administration. They were further asked to read the following general directions prior to the second instrument administration:

> Please check to make sure that the red letter on this questionnaire is the same as the red letter on your previous questionnaire. This is very important. If the letter is not the same notify the administrator immediately.
>
> This is the same questionnaire you answered several weeks ago. A few of you are asked to answer it again for reliability. The purpose is to see how many answers are the same both times.
>
> Please follow the directions and complete the instrument as before. If you have questions at any time raise your hand and ask the administrator.

The first instrument administration was carried out in the students' social studies classes by their regular teachers. This was the case because the social studies classes were often the only classes common to all of the twelfth grade

males. The second administration was performed in a similar manner. This process was basically the same for each of the three high schools, however, two deviations from this pattern existed.

One deviation was at the Fridley Senior High School where the students' names did not appear on the identification cards after the first administration. Therefore, it was not possible to obtain reliability from this group.

The second deviation existed at the North Senior High School where no class was common to all of the twelfth grade males. Therefore, the first instrument administration was carried out in the school auditorium with the investigator serving as the administrator. The second administration was performed in a similar manner in the guidance conference room at the school.

Data Tabulation and Analysis

The data obtained from the instrument were tabulated by hand. They were tabulated separately on the school dimension and on the educational program area dimension. This produced six separate groups of data for analysis (three types of schools by two educational program areas).

The data were almost entirely nominal. The ranks of the school factors provided the only source of ordinal data. The method of analysis was primarily descriptive, using percentage coefficients to describe the groups relative to the various objectives. The chi-square goodness-of-fit statistic and the binomial statistic were used to provide supportive information in some cases.

The chi-square goodness-of-fit statistic used is presented in Figure 1. This formula does incorporate the correction for continuity necessary for use with two by two tables.

FIGURE 1

FORMULA FOR THE CHI-SQUARE GOODNESS-OF-FIT TEST

$X^2 = \frac{(f_o - f_e - \frac{1}{2})^2}{f_e}$	$X^2 = \frac{(f_o - f_e)^2}{f_e}$
With the Correction For Continuity	Without the Correction For Continuity

The statistic has several assumptions which must be made. The assumptions for the chi-square goodness-of-fit nonparametric statistic are as follows:

1) each observation is classifiable unambiguously into one of the K categories

2) the classification of one observation is independent of any other

3) the sample is drawn randomly from the population

Each of these assumptions is fulfilled by the data on which the statistic is used. The chi-square goodness-of-fit statistic is used without the correction for continuity in situations other than two by two tables.

The binomial statistic used is presented in Figure 2. This is the normal approximation to the binomial for use with large samples and does incorporate the appropriate correction for continuity. The assumptions for this statistic are the same as those for the chi-square statistic except that only two categories may be involved and the sample size must exceed 25.

FIGURE 2

FORMULA FOR THE NORMAL APPROXIMATION
TO THE BINOMIAL

$$Z = \frac{(s \pm .5) - NP}{NPQ}$$

Contains The Correction
For Continuity

CONCLUSIONS

Objective One

1. What type of public two year post-secondary educational organization is preferred by the male senior secondary students? (See Table 3 and questionnaire item 6.)

In a free choice situation, a majority of the students (55 percent) have some preference for either the specialized or the comprehensive school type, while about 45 percent of the students are "undecided." Under the free choice situation, and when the "undecided" students are forced to choose, more students prefer a specialized school than a comprehensive school (60 percent to 40 percent).

Objective Two

2. How would the post-secondary attendance plans and educational program plans of the students change if the present system was made specialized or comprehensive? (See Tables 4, 5, 6, and 7 and questionnaire items 4, 5, 7, 8, 9, and 10.)

The attendance rate of students at public two year post-secondary schools is expected to be greater under either the specialized or comprehensive system than under the present system. Thirteen percent more students would attend post-secondary schools under the comprehensive system rather than the present system. Also, 22 percent more students would attend post-secondary schools under the specialized system rather than the present system.

The students' educational program plans would be very stable if either the specialized or the comprehensive systems was established. Only seven percent of the students would change their educational program plans from those selected under the present system to another program area under a specialized system, while 10 percent would change if they attended post-secondary schools under a comprehensive system.

Objective Three

3. What is the relative importance of the school factors in changing the students' preferences for the specialized and comprehensive institutions, and to what degree do these school factors overlap when utilizing institutional and individual importance measures and when comparing factors between the two school types? (See Tables 8, 9, 10, 11, and 12, and questionnaire items 11, 12, and 13.)

The students perceive more advantages for their preferred type of school (specialized or comprehensive) than for their unpreferred school type. Those

who are "undecided" perceive a more nearly equal number of advantages for both types of schools than either of the other two groups.

There is strong agreement among the school factors selected as advantages to the institution and the individual. There is less agreement among the factors selected by the vocational-technical students and the non-vocational-technical students as advantages for each type of school.

The particular school factors selected more often as advantages for the specialized school include lower student cost, similar entrance requirements, homogeneous student body, better educational program transfer, variety of course offerings, and education like "real life" situation. Those selected for the comprehensive school include lower student cost, better educational program transfer, diverse faculty, variety of course offerings, heterogeneous students, education like "real life" situation, and heterogeneous program offerings.

Objective Four

4. What is the relative importance of the non-school factors, as the students perceive them, to change their preferences for the specialized and comprehensive institutions? (See Tables 13, 14, and 15 and questionnaire items 14 through 31.)

The students are apt to change their school preferences to a greater extent under more extreme non-school conditions than under less extreme conditions. In terms of their effects upon changing the students' school preferences, the non-school factors of relative cost, program quality, student/faculty ratio, and placement/completion ratio are perceived as those of greater importance.

Objective Five

5. What differences exist among the perceptions of the future vocational-technical students and the future non-vocational-technical students? (See Tables 3 through 15, and all questionnaire items.)

The vocational-technical students and the non-vocational-technical students prefer the specialized school over the comprehensive school, under both the free choice and forced choice situations. The vocational-technical students prefer the specialized school over the comprehensive school (32 percent to 24 percent) in the free choice situation and again (64 percent to 36 percent) in the forced choice situation. The non-vocational-technical students prefer the specialized school over the comprehensive school (33 to 20 percent) in the free choice situation and again (55 percent to 44 percent) in the forced choice situation. In the free choice situation an average of 48 percent of the non-vocational-technical students are "undecided", while an average of 44 percent of the vocational-technical students are "undecided". (See Table 3 and questionnaire item 6.)

The attendance rate at public two year post-secondary schools under either the specialized or the comprehensive system is expected to exceed the rate under the present system for both the vocational-technical and the non-vocational-technical students. For the vocational-technical students the attendance rate under the present system is 56 percent, under the comprehensive system it is expected to be 59 percent, while under the specialized system it is anticipated as 77 percent. For the non-vocational-technical students the attendance rate under the present system is 46 percent, under the specialized system is expected to be 67 percent, and under the comprehensive system it is anticipated as 68 percent. Thus, the attendance rate is expected to be greater under the specialized system for the vocational-technical students, while it would be approximately the same for both systems for the non-vocational-technical students. (See Tables 4, 5, and 6, and questionnaire items 4, 7, and 9.)

The present educational program plans of the vocational-technical students and the non-vocational-technical students would not change very frequently if the school system became specialized or comprehensive. Seven percent of the vocational-technical students would change their educational program plans if the present system became comprehensive, and six percent would change their plans if the present system became specialized. Seven percent of the non-vocational-technical students would also change their educational program plans if the present system became comprehensive. (See Table 7 and questionnaire items 5, 8, and 10.)

The vocational-technical and the non-vocational-technical students both perceive more advantages for their preferred type of school than for their unpreferred school type. The vocational-technical students who are "undecided" perceive more advantages for the specialized school while the non-vocational-technical students who are "undecided" perceive more advantages for the comprehensive school. The total vocational-technical students, across preference groups, perceive considerably more advantages for the specialized school than for the comprehensive school, while the total non-vocational-technical students, across preference groups, perceive slightly more advantages for the specialized school than for the comprehensive school. (See Table 8 and questionnaire item 11.)

The vocational-technical students perceive four out of five school factors in the upper 25 percent and four out of five school factors in the lower 25 percent that are common to institutional and individual importance for the specialized school. Further, they perceive five out of five school factors in the upper 25 percent and five out of five factors in the lower 25 percent as common to institutional and individual importance for the comprehensive school. (See Tables 9 and 11 and questionnaire items 11, 12, and 13.)

The non-vocational-technical students perceive four out of five school factors in the upper 25 percent and four out of five in the lower 25 percent that are common to institutional and individual importance for the specialized school. They also perceive four out of five school factors in the upper 25 percent and five out of five in the lower 25 percent to be common to institutional and individual importance for the comprehensive school. (See Tables 10 and 12 and questionnaire items 11, 12, and 13.)

Thus, the vocational-technical and the non-vocational-technical students are both consistent with respect to their perceptions of school factors that are of institutional and individual importance. Factors which are perceived as high in terms of institutional importance are also perceived as high in terms of individual importance.

The vocational-technical and the non-vocational-technical students are less consistent with respect to the school factors they perceive as common in terms of importance for each of the two types of schools. These two student groups perceive 70 percent of the factors identical in the upper 25 percent and 70 percent identical in the lower 25 percent when applied to specialized schools. They further perceive 70 percent of the factors identical in the upper 25 percent and 80 percent identical in the lower 25 percent for comprehensive schools. (See Tables 9, 10, 11, and 12, and questionnaire items 11, 12, and 13.)

The vocational-technical students and the non-vocational-technical students are much less consistent with respect to the particular school factors perceived as important to both specialized and comprehensive schools. The vocational-technical students perceive only 50 percent of the factors identical in the upper 25 percent and 50 percent identical in the lower 25 percent. The non-vocational-technical students perceive 50 percent of the factors identical in the upper 25 percent and 60 percent identical in the lower 25 percent. Thus, the two student groups are similar in that both perceive only approximately half of the school factors equally applicable to specialized and comprehensive schools. (See Tables 9, 10, 11, and 12, and questionnaire items 11, 12, and 13.)

Reactions to the <u>first</u> condition level of the non-school factors are consistent for the vocational-technical students and the non-vocational-technical students. Four out of five of the non-school factors that the vocational-technical students perceive as in the upper 25 percent in terms of their effects upon changing students' school preferences are also perceived as in the upper 25 percent by the non-vocational-technical students. Also, four out of five of the non-school factors that the vocational-technical students perceive as in the lower 25 percent in terms of their effects upon changing students' school preferences are also perceived as in the lower 25 percent by the non-vocational-technical students. (See Tables 13 and 14, and questionnaire items 14 through 31.)

The students' perceptions relative to the <u>second</u> condition level of the non-school factors are also equally consistent for the vocational-technical and the non-vocational-technical students. Four out of five of the non-school factors that the vocational-technical students perceive as in the upper 25 percent in terms of their effects upon changing students' school preferences are also perceived as in the upper 25 percent by the non-vocational-technical students. Further, four out of five of the non-school factors that the vocational-technical students perceive as in the lower 25 percent in terms of their effects upon changing the students' school preferences are also perceived in the lower 25 percent by the non-vocational-technical students. (See Tables 13 and 14, and questionnaire items 14 through 31.)

The students' reactions to the first and/or second levels of the non-school factors are slightly less consistent than those on the first or second levels alone for the vocational-technical students and the non-vocational-technical students. Three out of five of the non-school factors that the vocational-technical students perceive to be in the upper 25 percent in terms of their effects upon changing students' school preferences are also perceived as in the upper 25 percent by the non-vocational-technical students. But only two out of five of the non-school factors that the vocational-technical students perceive as in the lower 25 percent in terms of their changing effects upon the students' school preferences are also perceived as in the lower 25 percent by the non-vocational-technical students. (See Table 15 and questionnaire items 14 through 31.)

Objective Six

6. What differences occur in the perceptions of the senior secondary students from the different high schools used in the study? (See Tables 3 through 15, and all questionnaire items.)

Under both the free choice and forced choice situations, the students in the Elk River and North Saint Paul High Schools prefer the specialized school to the comprehensive school by a wide margin. The students in Fridley, however, prefer the comprehensive school over the specialized school, but only by a narrow margin. In the free choice situation, over 50 percent of the students at Elk River and Fridley remain "undecided", while only approximately 30 percent do so at North Saint Paul. (See Table 3 and questionnaire item 6.)

The attendance rate at public two year post-secondary schools under either the specialized or the comprehensive systems for the students in Elk River, Fridley, and North Saint Paul is expected to be above the attendance rate under the present system. In addition, in all the high schools, the attendance rate is anticipated to be higher under the specialized system than under the comprehensive system. (See Tables 4, 5, and 6, and questionnaire items 4, 7, and 9.)

The Elk River, Fridley, and North Saint Paul students' educational program plans are all very stable under both specialized and comprehensive systems. No more than 12 percent of the students will change their educational program plans if either of these two systems are instituted. (See Table 7 and questionnaire items 5, 8, and 10.)

The students in each of the high schools perceive more advantages for their preferred school type than for their unpreferred school type. In Elk River and North Saint Paul, the students who are "undecided" perceive slightly more advantages for the specialized type of school than for the comprehensive school type. In Fridley, the "undecided" students perceive slightly more advantages for the comprehensive type of school than for the specialized school type. In Elk River and North Saint Paul, across preference groups, more advantages are perceived for the specialized type of school than for the comprehensive school type. In Fridley, across preference groups, more advantages are perceived for the comprehensive type of school than for the specialized school type. (See Table 8 and questionnaire item 11.)

The students in Elk River perceive five out of five school factors in the upper 25 percent and four out of five in the lower 25 percent as common to institutional and individual importance as applied to specialized schools. Further, they perceive five out of five school factors in the upper 25 percent and five out of five in the lower 25 percent as common to institutional and individual importance for the comprehensive school.

The Fridley students perceive four out of five school factors in the upper 25 percent and four out of five in the lower 25 percent to be common to institutional and individual importance for the specialized school. They also perceive five out of five school factors in the upper 25 percent and five out of five in the lower 25 percent to be common in terms of their institutional and individual importance for the comprehensive school.

The students in North Saint Paul perceive four out of five school factors in the upper 25 percent and four out of five in the lower 25 percent to be common in terms of institutional and individual importance for the specialized school. Further, they perceive five out of five school factors in the upper 25 percent and five out of five in the lower 25 percent to be common to the institutional and individual importance for the comprehensive school.

Therefore, within each of the three high schools there is considerable overlap between the school factors perceived as important to institutions and to individuals. Factors which have high institutional importance also have high individual importance. (See Tables 9, 10, 11, and 12, and questionnaire items 11, 12, and 13.)

There is less agreement among the students in the three high schools with respect to the particular school factors perceived as important for each type of school. The students in the three high schools perceive 40 percent of the factors identical in the upper 25 percent and 40 percent identical in the lower 25 percent for the specialized school. These three student groups also perceive 40 percent of the school factors identical in the upper 25 percent and 80 percent identical in the lower 25 percent as applied to comprehensive schools. (See Tables 9, 10, 11, and 12, and questionnaire items 11, 12, and 13.)

There is also less agreement among the students in the three high schools with respect to the particular school factors perceived as important to both the specialized and comprehensive schools. The Elk River students perceive 80 percent of the factors identical in the upper 25 percent and 60 percent identical in the lower 25 percent of factors. The Fridley students perceive only 40 percent of the factors identical in the upper 25 percent and 40 percent identical in the lower 25 percent. The North Saint Paul students perceive only 20 percent of the school factors identical in the upper 25 percent and 80 percent identical in the lower 25 percent. Thus, the three schools demonstrate relative agreement in the rate of school factors perceived as important to both the specialized and comprehensive schools.

The students' reactions to the <u>first</u> condition level of the non-school factors are consistent among the Elk River, Fridley, and North Senior High Schools. The non-school factors that the students perceive as in the upper 25 percent in terms of their effects upon changing the students' school preferences

are identical in the Elk River and North Saint Paul High Schools, while four out of five of these are the same in the Fridley High School. The non-school factors that the students perceive as in the lower 25 percent in terms of their effects upon changing the students' school preferences are identical for four of five factors in the Elk River and Fridley schools, while two out of five are identical in the North Saint Paul school. (See Tables 13 and 14, and questionnaire items 14 through 31.)

The students' perceptions relative to the second (more extreme) condition level of the non-school factors are also consistent among the Elk River, Fridley, and North Senior High Schools. The non-school factors that the students perceive as in the upper 25 percent in terms of their effects upon changing the students' school preferences are identical for four out of five factors in the Fridley and North Saint Paul schools while three of these four are the same in the Elk River school. The non-school factors that the students perceive in the lower 25 percent in terms of their effects upon changing the students' school preferences are identical for three of the five factors among the three high schools. (See Tables 13 and 14, and questionnaire items 14 through 31.)

The students' reactions to the first and/or second condition levels of the non-school factors are also in agreement among the Elk River, Fridley, and North Senior High Schools. The non-school factors that the students perceive as in the upper 25 percent in terms of their effects upon changing the students' school preferences are identical in the Elk River and Fridley High Schools while four out of five are the same in the North High School. The non-school factors that the students perceive in the lower 25 percent in terms of their effects upon the students' school preferences are the same for four out of five factors between the Elk River and North High Schools. (See Table 15, and questionnaire items 14 through 31.)

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APPENDIX A:

DEFINITIONS

Terms

School Factors

Non-School Factors

Terms

Attendance plans: whether or not a student would attend a public two year post-high school under the present, specialized, or comprehensive systems of organization

Comprehensive system: a system of public two year post-secondary education consisting only of schools with both vocational-technical programs plus non-vocational-technical programs

Educational program area: either vocational-technical or non-vocational-technical

Forced choice question: a multiple response type question in which none of the responses are "undecided"

Free choice question: a multiple response type question in which one of the responses is "undecided"

Individual importance: the importance derived according to the ranks which the individual students assign to particular factors

Institutional importance: the importance derived according to the frequencies with which the students select particular factors

Non-school factors: factors which may be advantages for either the specialized schools or the comprehensive schools but which are not inherent in the organization of either type

Non-vocational-technical: educational programs that prepare persons for professional level occupations, or that may not have occupational preparation as the objective, and which may require longer than two years training time

Perception: a judgement implying careful observation or subtle discrimination

Post-secondary school: a school that students may attend after leaving the high school and which is synonymous with the term "post-high school"

Preferred school: the type of public two year post-high school (either specialized or comprehensive) which the individual students perceive to have the greater value or benefit

Present system: the system of public two year post-high school education currently existing in Minnesota

School factors: factors which are inherent characteristics of either the specialized or comprehensive schools

Specialized system: a system of public two year post-high school education consisting only of schools which contain either vocational-technical programs or non-vocational-technical programs, but not both

Unpreferred school: the type of public two year post-high school (either specialized or comprehensive) which is opposite to the individual student's preferred school

Vocational-technical: educational programs made to fit people for work as semi-skilled, skilled, and technical level workers in jobs in agriculture, business, health, marketing, home economics, and industry in which the training time is usually two years or less, and in which people are qualified with job entry skills when the programs end

School Factors

Lower cost per student: greater total efficiency of operation

Easier to administer: less bureaucratic levels and lower student/administrator ratio

Educational program transfer: degree to which enrollment changes among educational programs are possible

Diverse faculty: teachers with a wide variety of preparations and interests

Uniform instructor hiring requirements: minimum qualifications necessary for employment are similar for all teachers within a school

Uniform faculty: teachers with similar preparations and interests

Similar entrance requirements: minimum student qualifications for entry into school's range of educational programs are consistent

Homogeneous student body: students with similar characteristics and interests

Heterogeneous student body: students with unlike characteristics and career interests

Diverse instructor hiring requirements: minimum qualifications necessary for employment are dissimilar within a school

Wide variety of course offerings: a large range of courses are offered

Education like "real life" situation: school environment is similar to the environment outside of school

Heterogeneous educational program offerings: wide variability in the range of educational programs offered

Uniform educational program status: similar prestige levels among school educational programs

Uniform administrator hiring requirements: similar minimum qualifications for administrative employment in a school

Consistent instructors' salaries: similar salaries for instructors from different program areas within a school

Tuition and fee cost similarity: degree to which tuition and fee costs are alike among educational programs

Uniform administrator philosophy: similar administrator educational philosophies within a school

Educational program flexibility: ease of educational program adaptability

Diverse entrance requirements: minimum student qualifications for entry into a school's range of educational programs are dissimilar

Uniform salaries for administrators: annual salaries of educational program administrators similar among schools

Non-school Factors

Geographic accessibility: the physical distance between two points

Relative cost: the difference in annual student cost among schools

Educational program length: the minimum length of calendar time between program inception and completion

Relative enrollment: the difference in total student count between schools

Selection/application ratio: the number of people requesting admission divided by the number of people obtaining permission to attend a school

Completion/selection ratio: those students completing programs divided by those students beginning programs

Placement/completion ratio: those people who complete programs and find employment divided by those who complete programs

Student/faculty ratio: total number of students divided by total number of faculty

Credit transferability: a school's acceptance of work done at another school

Level of institutional control: local governance or state governance

Extra curricular activity availability: the presence of school sponsored activities outside the classroom

Program quality: an educational program's degree of excellence

Collegiate name: "College" is included in the formal school name

School setting: whether or not a typically "collegiate" atmosphere exists

Educational generality: whether a school's programs are developed based on Minnesota factors only or on factors affecting other regions in addition to Minnesota

Minority proportion: the relative amount of minority group people enrolled

Handicapped proportion: the relative amount of physically or mentally handicapped people who are enrolled

APPENDIX B:

THE INSTRUMENT

HIGH SCHOOL STUDENT PERCEPTIONS OF PUBLIC TWO YEAR POST-HIGH SCHOOL EDUCATION

To the student: Answer all of the following items honestly. Your answers are not to be used to evaluate your school, your teacher, or yourself. The answers will only be considered as part of large groups, so do not place your name on this instrument.

PART I Directions: Print the information on the lines below.

1. Name of school: _____

2. Your age (to nearest year): _____

3. Today's date (month/day/year): _____

Definitions:

Vocational-technical - Educational programs made to fit people for work as skilled workers in jobs in agriculture, business, health, marketing, home economics, and industry. The training time is generally two years or less and the people are qualified to enter a job when the program ends without added training. Job examples are: farmer, office clerk, salesman, dental assistant, and plumber.

Non-vocational-technical - Educational programs that are "professional" or that require a bachelors or higher degree. The programs may or may not have jobs as objectives. The training time is generally longer than two years and the people may or may not be qualified to enter a job when the program ends as added training may be necessary. Job examples are: doctor, lawyer, teacher, and minister.

Specialized school - has either vocational-technical programs or non-vocational-technical programs, but not both.

Comprehensive school - has both vocational-technical programs plus non-vocational-technical programs.

PART II Directions: Check one box for each item.

4. Do you currently plan to attend a public two year post-high school in Minnesota?

☐ Yes ☐ No

5. Assuming that you would attend one of the schools, which one of the two educational program areas would you follow?

☐ Vocational-technical ☐ Non-vocational-technical

Read the following before answering item six:

geographic distance-space between home and post-high school
cost-price of post-high school education
program length-total time from program beginning to ending
enrollment-number of students attending a post-high school
selection/application ratio-percent of applicants selected
completion/selection ratio-percent of selectees finishing programs
placement/completion ratio-percent finishing who get jobs
student/faculty ratio-number of students per faculty member
credit transfer-a school's acceptance of work at another school
level of control-local community control or state wide control
extra curricular programs-school offered sports, clubs, dances etc.
program quality-a program's degree of excellence
school name-whether or not the term "college" is included
school setting-whether or not a "collegiate" atmosphere exists
program generality-region for which students are prepared for work
minority proportion-percent of students from minority groups
handicapped proportion-percent of students who are handicapped

6. Assuming the underlined factors above are the same or equal for specialized and comprehensive schools and that you plan to attend a post-high school, which one of the following would you prefer?

☐ A. I definitely prefer a specialized school--one which has vocational-technical or non-vocational-technical programs, not both.

☐ B. I definitely prefer a comprehensive school--one which has vocational-technical plus non-vocational-technical programs.

☐ C. I am undecided, but if forced to choose I would prefer a specialized school.

☐ D. I am undecided, but if forced to choose I would prefer a comprehensive school.

7. If you assume that all public two year post-high schools are specialized, would you attend one of these schools?

☐ Yes ☐ No

8. Assuming that you would attend a specialized school, which one of the two educational program areas would you follow?

☐ Vocational-technical ☐ Non-vocational-technical

9. If you assume that all public two year post-high schools are comprehensive, would you attend one of these schools?

☐ Yes ☐ No

10. Assuming that you would attend a comprehensive school, which one of the two educational program areas would you follow?

☐ Vocational-technical ☐ Non-vocational-technical

PART III Directions: Follow the directions for each item.

11. For each advantage check one box. Check whether the advantage is for your "preferred" school, your "unpreferred" school, or neither school. For school definitions see item six.

Schools			Advantages
"Preferred"	Neither	"Unpreferred"	
a. ☐	☐	☐	Lower total cost per student
b. ☐	☐	☐	Schools easier to administer
c. ☐	☐	☐	Easier to transfer from one educational program to another
d. ☐	☐	☐	School teachers with a wide variety of preparations and interests
e. ☐	☐	☐	School hiring requirements for teachers more uniform
f. ☐	☐	☐	School faculty with similar preparations and interests
g. ☐	☐	☐	School entrance requirements for students more similar among educational programs
h. ☐	☐	☐	Student body with similar characteristics and career interests
i. ☐	☐	☐	Student body with a wide variety of characteristics and career interests
j. ☐	☐	☐	Wide range of school hiring requirements for teachers
k. ☐	☐	☐	Wide range of courses offered

"Preferred"	Schools Neither	"Unpreferred"	Advantages
l. ☐	☐	☐	Education more like a "real life" situation
m. ☐	☐	☐	Wide range of educational program offerings
n. ☐	☐	☐	Less difference in social status from highest to lowest among educational programs
o. ☐	☐	☐	School hiring requirements for administrators more uniform
p. ☐	☐	☐	Salaries for teachers in a school more uniform
q. ☐	☐	☐	Similar tuition and fee costs among educational programs
r. ☐	☐	☐	Administrator's educational ideas more similar in a school
s. ☐	☐	☐	Easier to adapt educational programs
t. ☐	☐	☐	Wide range of school entrance requirements for students
u. ☐	☐	☐	More uniform salaries for educational program administrators among schools

12. Rank the advantages checked in the left column in order of their importance to you. The most important advantage should receive a "1" the next a "2" and so on until each check in the left column has a rank beside it. If you cannot rank one advantage more important than another give equal ranks to that pair.

13. Rank the advantages checked in the right column in order of their importance to you. The most important advantage should receive a "1" the next a "2" and so on until each check in the right column has a rank beside it. If you cannot rank one advantage more important than another give equal ranks to that pair.

PART IV Directions: "Preferred" school is that chosen in item #6. "Unpreferred" school is that not chosen in item #6. Check the "Yes" or "No" box for each "A" and "B" situation. Each item involves two situations and two checks. The underlined part of the item is the part that is changed by the situations in each case.

14. Given a situation in which the nearest one of your "preferred" schools is located further away than the nearest one of your "unpreferred" schools, would you still prefer the same school?

A. If it is ten miles further away? ☐Yes No ☐
B. If it is fifty miles further away? ☐Yes No ☐

15. Assuming that attending your "preferred" school costs more than attending your "unpreferred" school, would you still prefer the same school?

A. If it costs $100.00 more each year? ☐Yes No ☐
B. If it costs $1000.00 more each year? ☐Yes No ☐

16. Given the fact that your chosen educational program is longer in your "preferred" school than in your "unpreferred" school, would you still prefer the same school?

A. If it is four weeks longer? ☐Yes No ☐
B. If it is twelve weeks longer? ☐Yes No ☐

17. Assuming that the enrollment in your "preferred" school is greater than the enrollment in your "unpreferred" school, would you still prefer the same school?

A. If the enrollment is 1000 greater? ☐Yes No ☐
B. If the enrollment is 2000 greater? ☐Yes No ☐

18. Assuming that the enrollment in your "preferred" school is less than the enrollment in your "unpreferred" school, would you still prefer the same school?

A. If the enrollment is 1000 less? ☐Yes No ☐
B. If the enrollment is 2000 less? ☐Yes No ☐

19. Given a situation in which nine out of ten applicants are selected for attendance into your "unpreferred" school while proportionately less applicants are selected for attendance into your "preferred" school, would you still prefer the same school?

A. If eight out of ten are selected? ☐Yes No ☐
B. If three out of ten are selected? ☐Yes No ☐

20. Given a situation in which nine out of ten selected applicants finish their programs in your "unpreferred" school while proportionately less finish their programs in your "preferred" school, would you still prefer the same school?

A. If eight out of ten finish the programs? ☐ Yes No ☐
B. If four out of ten finish the programs? ☐ Yes No ☐

21. Assuming that nine out of ten graduates of your "unpreferred" school are placed in jobs after finishing while proportionately fewer graduates of your "preferred" school are placed in jobs after finishing, would you still prefer the same school?

A. If eight out of ten are placed in jobs? ☐ Yes No ☐
B. If four out of ten are placed in jobs? ☐ Yes No ☐

22. Assuming that the credit units of your "unpreferred" school transfer to all two and four year schools while the credit units of your "preferred" school transfer to a lesser degree, would you still prefer the same school?

A. If they transfer among two year schools only? ☐ Yes No ☐
B. If they do not transfer at all? ☐ Yes No ☐

23. Assuming that your "unpreferred" school has twenty students per faculty member while your "preferred" school has more students per faculty member, would you still prefer the same school?

A. If twenty-five existed per faculty member? ☐ Yes No ☐
B. If fifty existed per faculty member? ☐ Yes No ☐

24. Given a situation where your "preferred" school is controlled at one level while your "unpreferred" school is controlled at another level, would you still prefer the same school?

A. If your "preferred" school is locally controlled while your "unpreferred" school is state controlled? ☐ Yes No ☐
B. If your "preferred" school is state controlled while your "unpreferred" school is locally controlled? ☐ Yes No ☐

25. Assuming that your "preferred" school has one policy for extra curricular programs while your "unpreferred" school has another policy for them, would you still prefer the same school?

A. If your "preferred" school does not offer the programs while your "unpreferred" school does? ☐ Yes No ☐
B. If your "preferred" school does offer the programs while your "unpreferred" school does not? ☐ Yes No ☐

26. Assuming that the quality of your chosen educational program is excellent in your "unpreferred" school while it is less in your "preferred" school, would you still prefer the same school?

A. If the quality is above average? ☐ Yes No ☐
B. If the quality is below average? ☐ Yes No ☐

27. Assuming that your "preferred" school has one type of name while your "unpreferred" school has another type of name, would you still prefer the same school?

A. If your "preferred" school name includes the word "college" while your "unpreferred" school name does not? ☐ Yes No ☐
B. If your "preferred" school name does not include the word "college" while your "unpreferred" school name does? ☐ Yes No ☐

28. Assuming that your "preferred" school bases programs on certain conditions while your "unpreferred" school bases them on other conditions, would you still prefer the same school?

A. If your "preferred" school bases programs only on Minnesota conditions while your "unpreferred" school bases them on conditions in other regions plus Minnesota? ☐ Yes No ☐
B. If your "preferred" school bases programs on conditions in other regions plus Minnesota while your "unpreferred" school bases them only on Minnesota conditions? ☐ Yes No ☐

29. Assuming that your "unpreferred" school has twenty percent minority students while your "preferred" school has proportionately more minority students, would you still prefer the same school?

A. If your "preferred" school has thirty percent? ☐ Yes No ☐
B. If your "preferred" school has fifty percent? ☐ Yes No ☐

30. Assuming that your "unpreferred" school has five percent of its enrollment in special classes for the handicapped while your "preferred" school has proportionately more of its enrollment in these classes, would you still prefer the same school?

A. If your "preferred" school has ten percent? ☐ Yes No ☐
B. If your "preferred" school has fifteen percent? ☐ Yes No ☐

31. Assuming that your "preferred" school has one setting while your "unpreferred" school has another setting, would you still prefer the same school?

A. If your "preferred" school has a formal college setting while your "unpreferred" school does not? ☐ Yes No ☐
B. If your "preferred" school does not have a formal college setting while your "unpreferred" school does? ☐ Yes No ☐

APPENDIX C:

TABLES 2 - 16

TABLE 2

POPULATION AND SAMPLE BREAKDOWN BY SCHOOL

	Elk River High School		Fridley High School		North High School	
Male Seniors	Number	Percent	Number	Percent	Number	Percent
Total	120	100	160	100	241	100
In Population (Present For Administration)	92	77	114	71	178	74
Not In Population (Absent From Administration)	28	23	46	29	63	26
Male Seniors In Population						
Vocational-technical	62	67	59	52	93	52
Sample	29	47	48	81	64	69
Not included	27	43	5	9	15	16
Improperly completed	6	10	6	10	14	15
Non-vocational technical	29	32	54	47	71	40
Sample	29	100	48	89	64	90
Not Included	--	--	--	--	--	--
Improperly completed	--	--	6	11	7	10
Unclassified	1	1	1	1	14	8

TABLE 3

PERCEPTIONS OF SCHOOL ORGANIZATIONS

High School	Elk River				Fridley				North			
Program Area	Vocational-technical		Non-vocational-technical		Vocational-technical		Non-vocational-technical		Vocational-technical		Non-vocational-technical	
Choice Type	Free	Forced	Free	Forced	Free	Forced	Free	Forced	Free	Forced	Free	Forced
School Types												
Specialized	8 28%	24 83%	9 31%	17 59%	8 17%	22 46%	8 17%	21 44%	29 45%	44 69%	29 45%	39 61%
Comprehensive	3 10%	5 17%	5 17%	12 41%	15 31%	26 54%	12 25%	27 56%	16 25%	20 31%	11 17%	25 39%
Undecided	18 62%	- -	15 52%	- -	25 52%	- -	28 58%	- -	19 30%	- -	24 38%	- -
Total	29 100%	29 100%	29 100%	29 100%	48 100%	48 100%	48 100%	48 100%	64 100%	64 100%	64 100%	64 100%
Chi-square		7.62*		.86		.67		.75		9.00*		3.06
Probability		.01≥p ≥.001		.50≥p ≥.30		.50≥p ≥.30		.50≥p ≥.30		.01≥p ≥.001		.10≥p ≥.05

* Significant at the .05 level

TABLE 4

PUBLIC TWO YEAR POST-SECONDARY ATTENDANCE PLANS
OF VOCATIONAL-TECHNICAL STUDENTS

	Elk River			Fridley			North		
Expected Values	Yes	No		Yes	No		Yes	No	
Present System	15	14	15/29 (52%)	25	23	25/48 (52%)	39	25	39/64 (61%)
Observed Values									
Specialized System	22	7	22/29 (76%) Z=2.39* .01≥p≥.001	38	10	19/24 (79%) Z=3.61* p<.001	48	16	3/4 (75%) Z=2.17* .05≥p≥.01
Comprehensive System	15	14	15/29 (52%) Z=0.00 p=1.00	32	16	2/3 (67%) Z=1.88 .05≥p≥.01 (Two Tailed)	36	28	9/16 (56%) Z=.65 .30≥p≥.20

*Significant at the .05 level

TABLE 5

PUBLIC TWO YEAR POST-SECONDARY ATTENDANCE PLANS
OF NON-VOCATIONAL-TECHNICAL STUDENTS

	Elk River			Fridley			North		
Expected Values	Yes	No		Yes	No		Yes	No	
Present System	12	17	12/29 (41%)	20	28	5/12 (42%)	33	31	33/64 (52%)
Observed Values									
Specialized System	21	8	21/29 (72%) Z=3.25* p<.001	27	21	27/48 (56%) Z=1.85 .05≥p≥.01 (Two Tailed)	47	17	47/64 (73%) Z=3.31* p<.001
Comprehensive System	17	12	17/29 (59%) Z=1.74 .05≥p≥.01 (Two Tailed)	30	18	5/8 (62%) Z=2.73* .01≥p≥.001	49	15	49/64 (77%) Z=3.81* p<.001

*Significant at the .05 level

TABLE 6

PUBLIC TWO YEAR POST-SECONDARY ATTENDANCE PLANS
OF VOCATIONAL-TECHNICAL AND NON-VOCATIONAL-TECHNICAL STUDENTS

	Elk River			Fridley			North		
Expected Values	Yes	No		Yes	No		Yes	No	
Specialized System	23	6	23/29 (79%)	38	10	19/24 (79%)	48	25	2/3 (66%)
Vocational-technical students									
Observed Values									
Comprehensive System	16	13	16/29 (55%) Z=2.93* .01≥p≥.001	32	16	2/3 (67%) Z=1.92 .05≥p≥.01 (Two Tailed)	36	28	9/16 (56%) Z=3.32* p<.001
Expected Values									
Specialized System	21	8	21/29 (72%)	27	21	27/48 (56%)	48	16	3/4 (75%)
Non-vocational-technical students									
Observed Values									
Comprehensive System	17	12	17/29 (59%) Z=1.40 .10≥p≥.05	31	17	31/48 (65%) Z=1.05 .20≥p≥.10	48	16	3/4 (75%) Z=0.00 p=1.00

*Significant at the .05 level

TABLE 7

EDUCATIONAL PROGRAM PLAN STABILITY

		Elk River		Fridley		North	
		Specialized System	Comprehensive System	Specialized System	Comprehensive System	Specialized System	Comprehensive System
Vocational-technical students	No Change	29	26	43	42	61	63
		100%	90%	90%	88%	95%	98%
	Change	0	3	5	6	3	1
		0%	10%	10%	12%	5%	2%
	Total	29	29	48	48	64	64
		100%	100%	100%	100%	100%	100%
	Chi-square	29.00*	18.24*	30.08*	27.00*	52.56*	60.06*
	Probability	p<.001	p<.001	p<.001	p<.001	p<.001	p<.001
Non-vocational-technical students	No Change	28	28	44	47	58	57
		97%	97%	92%	98%	91%	89%
	Change	1	1	4	1	6	7
		3%	3%	8%	2%	9%	11%
	Total	29	29	48	48	64	64
		100%	100%	100%	100%	100%	100%
	Chi-square	25.14*	25.14*	33.33*	44.08*	42.25*	39.06*
	Probability	p<.001	p<.001	p<.001	p<.001	p<.001	p<.001

*Significant at the .05 level

TABLE 8

AVERAGE NUMBER OF PERCEIVED ADVANTAGES

		Elk River		Fridley		North	
		School Type		School Type		School Type	
		Specialized	Comprehensive	Specialized	Comprehensive	Specialized	Comprehensive
Vocational-technical Students Preferred School	Specialized	11.62	4.37	6.62	4.87	10.97	4.10
	Comprehensive	3.00	10.00	4.17	11.17	3.31	8.75
	Undecided	10.89	4.67	5.86	6.46	7.79	4.42
	Total	25.51	19.04	16.65	22.50	22.07	17.27
	Average	8.50	6.35	5.55	7.50	7.36	5.76
Non-vocational-technical Students Preferred School	Specialized	12.00	4.25	9.87	3.38	9.80	4.48
	Comprehensive	5.20	10.40	5.53	10.20	4.18	9.36
	Undecided	7.33	7.53	5.80	5.68	6.00	6.58
	Total	24.53	22.18	21.20	19.26	19.98	20.42
	Average	8.18	7.39	7.07	6.42	6.66	6.81

TABLE 9

INSTITUTIONAL IMPORTANCE OF SCHOOL ADVANTAGES
FOR VOCATIONAL-TECHNICAL STUDENTS

Elk River				Fridley				North			
Specialized		Comprehensive		Specialized		Comprehensive		Specialized		Comprehensive	
F-A*	O-F**	F-A	O-F	F-A	O-F	F-A	O-F	F-A	O-F	F-A	O-F
L	22	K	12	L	26	M	27	A	38	I	27
A	20	C	10	H	24	C	23	G	33	D	25
M	18	F	10	A	21	K	23	L	33	K	25
S	18	G	9	D	19	I	21	H	32	C	24
B	17	T	9	G	18	A	20	B	29	J	22
Q	17	A	8	R	18	D	20	K	29	M	22
D	16	H	8	F	16	S	19	F	28	T	18
K	16	M	8	K	15	T	18	C	27	E	17
G	15	N	8	C	14	B	17	G	27	N	17
C	14	D	7	M	14	J	17	M	26	S	17
T	14	E	7	O	14	L	16	S	26	A	16
H	13	I	6	B	13	Q	16	D	23	B	16
J	13	L	6	S	13	G	14	I	23	L	15
N	12	P	6	Q	12	H	11	T	22	P	14
U	12	Q	6	T	12	N	11	N	21	Q	14
E	11	S	6	E	11	F	10	P	20	R	14
I	11	J	5	J	11	O	10	E	19	H	13
F	10	R	5	N	10	R	10	R	19	G	12
O	10	U	5	P	9	P	9	U	18	O	10
R	10	B	4	I	7	U	9	O	17	F	8
P	9	O	4	U	7	E	9	J	12	U	7

*Factor Advantages **Ordered Frequencies

TABLE 10

INSTITUTIONAL IMPORTANCE OF SCHOOL ADVANTAGES
FOR NON-VOCATIONAL-TECHNICAL STUDENTS

Elk River				Fridley				North			
Specialized		Comprehensive		Specialized		Comprehensive		Specialized		Comprehensive	
F-A*	O-F**	F-A	O-F	F-A	O-F	F-A	O-F	F-A	O-F	F-A	O-F
I	16	A	13	F	19	K	25	C	32	L	30
K	15	L	13	A	17	M	25	Q	31	I	29
S	15	C	12	K	17	A	24	A	30	K	29
A	14	D	11	G	16	C	24	H	29	M	29
C	14	H	11	O	16	D	24	G	28	A	25
D	14	I	11	E	15	L	22	K	27	D	23
M	14	K	11	H	15	S	22	B	24	T	23
Q	13	M	11	B	14	T	22	N	24	C	20
G	12	F	10	C	14	Q	21	D	23	B	18
R	12	S	10	I	14	J	18	S	23	S	18
T	12	B	9	L	14	I	17	M	22	J	17
B	11	E	9	M	14	B	16	E	21	F	16
H	11	G	9	R	14	H	13	F	21	G	15
L	11	Q	9	S	13	E	11	I	20	Q	15
E	10	T	9	D	11	G	11	R	18	E	14
F	9	J	8	T	11	H	9	L	17	H	13
J	9	O	8	N	10	R	8	O	17	O	13
N	9	N	7	Q	10	O	7	P	17	N	12
O	9	P	7	J	8	P	7	U	17	U	12
P	7	U	6	U	8	F	6	T	16	R	11
U	5	R	4	P	7	U	4	J	15	P	9

*Factor Advantages **Ordered Frequencies

TABLE 11

INDIVIDUAL IMPORTANCE OF SCHOOL ADVANTAGES
FOR VOCATIONAL-TECHNICAL STUDENTS

Elk River				Fridley				North			
Specialized		Comprehensive		Specialized		Comprehensive		Specialized		Comprehensive	
F-A*	A-R**	F-A	A-R	F-A	A-R	F-A	A-R	F-A	A-R	F-A	A-R
A	6.55	K	8.60	L	7.23	M	7.48	A	7.92	D	9.20
L	7.05	C	9.71	M	8.66	K	8.38	L	8.92	I	9.40
M	8.62	F	9.74	A	8.93	A	8.68	G	9.45	K	9.63
K	9.45	M	9.74	R	9.64	C	8.77	H	9.51	M	9.72
B	9.52	T	9.86	D	9.92	I	9.47	F	9.70	C	9.87
S	9.90	H	9.88	M	10.03	D	9.89	B	9.74	E	10.02
D	10.02	G	9.97	G	10.19	L	10.15	C	9.80	N	10.13
G	10.43	A	10.10	K	10.30	B	10.22	K	9.95	J	10.20
Q	10.48	N	10.38	F	10.33	S	10.39	M	10.00	T	10.32
C	10.64	L	10.47	O	10.85	T	10.45	U	10.13	B	10.66
H	11.14	P	10.74	C	10.97	G	10.73	Q	10.47	A	10.67
T	11.17	D	10.86	S	10.97	J	10.78	S	10.55	P	10.73
N	11.26	E	10.89	B	11.19	Q	11.01	I	10.74	L	10.78
J	11.69	I	10.93	T	11.27	H	11.03	D	10.87	S	10.87
U	11.78	S	10.95	Q	11.32	F	11.77	T	10.98	R	11.05
I	11.97	Q	10.98	N	11.42	N	11.96	A	11.70	H	11.13
E	12.10	R	11.19	P	11.88	P	12.11	R	11.71	Q	11.24
P	12.10	J	11.29	J	11.90	E	12.21	P	11.73	O	11.25
F	12.26	U	11.33	E	12.01	U	12.22	E	11.77	G	11.29
R	12.59	B	11.59	I	12.20	O	12.45	O	12.20	F	11.77
O	12.67	O	11.64	U	12.23	R	12.57	J	12.87	U	11.97

*Factor Advantages **Average Ranks

TABLE 12

INDIVIDUAL IMPORTANCE OF SCHOOL ADVANTAGES
FOR NON-VOCATIONAL-TECHNICAL STUDENTS

Elk River				Fridley				North			
Specialized		Comprehensive		Specialized		Comprehensive		Specialized		Comprehensive	
F-A*	A-R**	F-A	A-R	F-A	A-R	F-A	A-R	F-A	A-R	F-A	A-R
M	9.31	A	7.86	A	9.13	A	7.52	C	8.97	K	8.32
S	9.48	L	8.03	K	9.49	K	7.94	Q	9.13	L	8.67
A	9.53	K	9.33	F	9.55	C	8.14	A	9.20	A	8.83
K	9.86	M	9.62	G	9.79	M	8.34	K	9.66	M	8.92
C	9.93	C	9.74	H	9.96	L	8.69	G	9.69	I	8.98
R	9.98	I	9.93	C	10.14	D	8.94	B	10.26	C	9.98
I	10.03	H	9.98	L	10.22	T	9.51	M	10.36	D	10.16
H	10.05	G	10.22	O	10.23	S	9.90	S	10.49	T	10.48
D	10.26	S	10.35	E	10.32	Q	9.99	H	10.63	B	10.53
T	10.26	D	10.40	M	10.45	B	10.70	N	10.71	F	11.03
Q	10.28	Q	10.40	T	10.50	I	10.78	F	10.76	G	11.05
L	10.31	E	10.52	I	10.53	J	11.13	D	10.89	J	11.17
B	10.45	B	11.00	S	10.69	H	11.22	R	11.03	S	11.33
G	10.91	F	11.00	B	10.72	N	11.33	I	11.09	H	11.41
J	11.12	T	11.14	R	10.82	G	11.76	E	11.15	Q	11.45
N	11.24	J	11.26	D	10.89	E	12.07	T	11.26	O	11.63
O	11.28	N	11.74	N	11.16	O	12.56	L	11.50	E	11.75
F	11.38	P	11.88	Q	11.44	R	12.61	P	11.72	N	11.83
P	11.83	O	11.90	J	11.69	F	12.72	O	11.84	U	11.88
E	12.07	U	12.33	U	11.71	P	12.79	U	12.02	P	12.19
U	12.71	R	12.48	P	11.98	U	13.42	J	12.25	R	12.30

*Factor Advantages **Average Ranks

TABLE 13

NON-SCHOOL FACTOR IMPORTANCE
FOR VOCATIONAL-TECHNICAL STUDENTS

			A	B	C	D_1	D_2	E	F	G	H	I	J	K	L	M	N	O	P	Q
Elk River	Total	Number	28	28	28	28	28	27	28	28	28	28	28	27	27	27	27	27	27	27
		Percent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	No Change Level One	Number	28	23	22	23	25	25	26	25	15	23	17	14	24	17	19	23	22	20
		Percent	100	82	79	82	89	93	93	89	54	82	61	52	89	63	70	85	81	74
	No Change Level Two	Number	15	3	15	12	20	13	9	10	6	11	16	20	6	23	16	14	15	20
		Percent	54	13	54	43	71	48	32	36	21	39	57	74	22	85	59	52	56	74
Fridley	Total	Number	48	48	48	48	48	48	48	48	47	47	47	48	48	47	48	48	48	47
		Percent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	No Change Level One	Number	47	40	43	44	45	45	46	41	30	45	34	29	45	42	32	41	41	35
		Percent	98	83	90	92	94	94	96	85	64	96	72	60	94	89	67	85	85	74
	No Change Level Two	Number	23	5	26	33	39	29	27	14	12	18	34	37	44	34	35	33	34	34
		Percent	48	10	54	69	81	60	56	29	26	38	72	77	92	72	73	69	71	72
North	Total	Number	63	62	61	62	63	63	63	62	63	63	63	63	60	61	60	60	60	59
		Percent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	No Change Level One	Number	61	54	59	53	56	61	59	53	48	56	49	47	51	38	46	51	52	49
		Percent	97	87	97	85	89	97	94	85	76	89	78	75	85	62	77	85	87	83
	No Change Level Two	Number	32	12	36	35	50	40	33	28	27	28	40	42	20	42	36	37	43	38
		Percent	51	19	59	56	79	63	52	45	43	44	63	67	33	69	60	62	72	64

TABLE 14

NON-SCHOOL FACTOR IMPORTANCE
FOR NON-VOCATIONAL-TECHNICAL STUDENTS

			A	B	C	D_1	D_2	E	F	G	H	I	J	K	L	M	N	O	P	Q
Elk River	Total	Number	28	27	26	26	27	27	27	27	27	27	27	27	27	27	27	27	27	27
		Percent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	No Change Level One	Number	26	23	21	24	25	24	24	22	10	20	19	12	20	23	15	23	20	20
		Percent	96	85	81	92	93	89	89	81	37	74	70	44	74	85	56	85	74	74
	No Change Level Two	Number	23	8	19	22	23	18	11	7	4	12	17	24	8	21	19	18	23	23
		Percent	85	30	73	87	85	67	41	26	15	44	63	88	30	78	70	67	85	85
Fridley	Total	Number	48	48	48	48	47	47	48	47	48	47	46	48	48	48	47	47	45	47
		Percent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	No Change Level One	Number	45	46	44	46	47	45	45	43	18	46	34	30	43	43	30	45	37	37
		Percent	94	96	92	96	100	94	94	91	38	98	74	62	90	90	64	96	82	79
	No Change Level Two	Number	25	8	18	31	36	34	23	7	4	18	37	39	11	32	34	25	34	32
		Percent	52	17	38	65	75	71	48	15	8	38	80	81	23	67	72	53	76	69
North	Total	Number	64	64	64	64	63	64	64	64	62	64	63	63	63	64	61	63	63	62
		Percent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	No Change Level One	Number	64	59	63	62	61	60	61	59	28	64	52	39	51	59	41	60	58	55
		Percent	100	92	98	97	97	94	95	92	45	100	83	62	81	92	67	95	92	89
	No Change Level Two	Number	41	24	47	53	55	50	42	33	13	38	55	56	18	46	52	45	46	47
		Percent	64	38	73	83	87	78	66	52	21	59	87	89	29	72	85	71	73	76

TABLE 15

RELATIVE IMPORTANCE OF NON-SCHOOL FACTORS

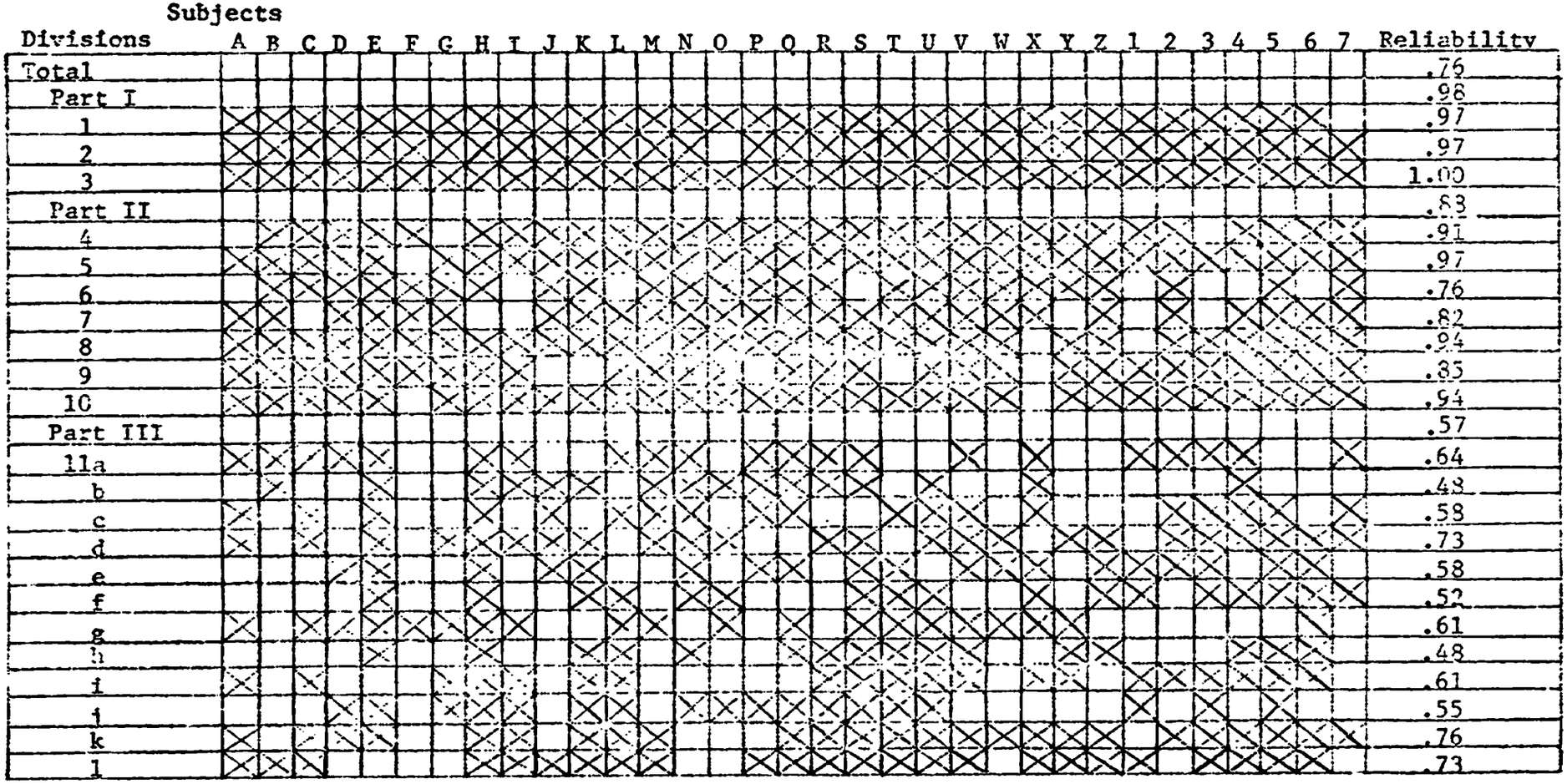
Elk River				Fridley				North			
Vocational-technical		Non-vocational-technical		Vocational-technical		Non-vocational-technical		Vocational-technical		Non-vocational-technical	
N-S-F*	P-D**	N-S-F	P-D	N-S-F		N-S-F	P-D	N-S-F	P-D	N-S-F	P-D
B	89	H	89	B		H	96	B	81	L	81
L	89	L	82	L	75	G	87	L	72	H	79
H	78	G	81	[illegible]	72	B	81	H	59	B	64
I	75	B	74	[illegible]	71	L	81	G	58	G	53
K	74	N	70	[illegible]	61	I	64	N	57	K	46
F	71	F	67	[illegible]	58	C	62	J	56	N	46
G	68	I	67	A	52	N	62	M	56	I	41
J	68	K	67	C	48	F	54	A	49	A	36
N	63	J	63	N	48	K	52	F	48	F	34
D_1	60	E	41	J	47	Q	51	K	48	Q	34
P	55	O	37	Q	46	A	48	O	47	C	28
O	52	Q	37	F	44	O	47	Q	47	M	28
E	51	P	33	E	42	J	46	D_2	44	J	27
M	48	C	30	O	35	M	37	C	41	O	27
Q	48	M	29	P	33	D_1	35	I	41	E	25
A	46	A	19	M	32	E	32	E	40	P	25
C	46	D_2	19	D_1	31	P	31	P	40	D_1	17
D_2	39	D_1	16	D_2	19	D_2	21	D_2	21	D_2	17

*Non-school Factors

**Percentage Distribution of students who changed their original preferences based on each factor

TABLE 16

RELIABILITY OF THE INSTRUMENT



Divisions	Subjects A B C D E F G H I J K L M N O P Q R S T U V W X Y Z 1 2 3 4 5 6 7	Reliability
Total		.76
Part I		.98
1		.97
2		.97
3		1.00
Part II		.83
4		.91
5		.97
6		.76
7		.82
8		.94
9		.85
10		.94
Part III		.57
11a		.64
b		.48
c		.58
d		.73
e		.58
f		.52
g		.61
h		.48
i		.61
j		.55
k		.76
l		.73

TABLE 16 (cont.)

RELIABILITY OF THE INSTRUMENT

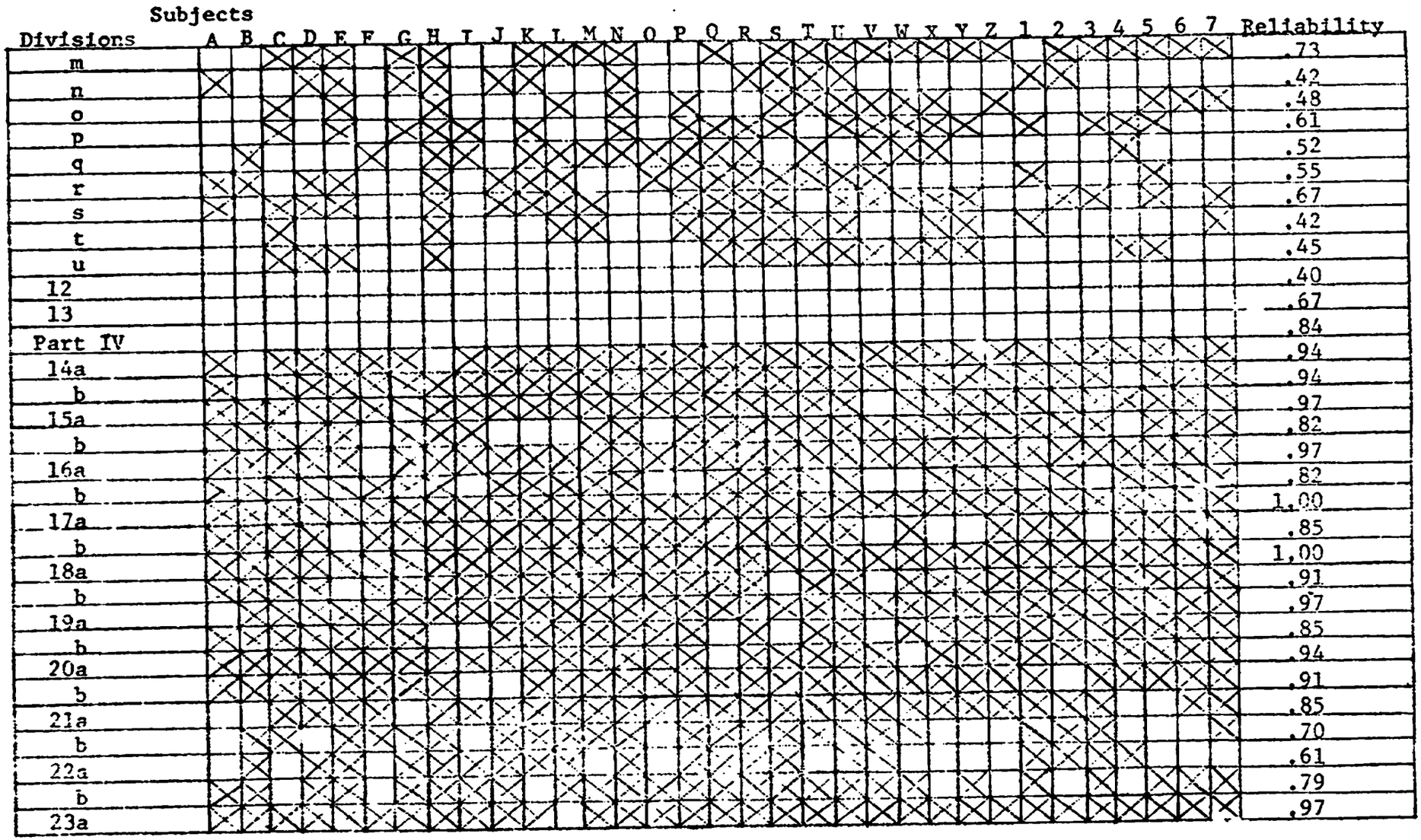
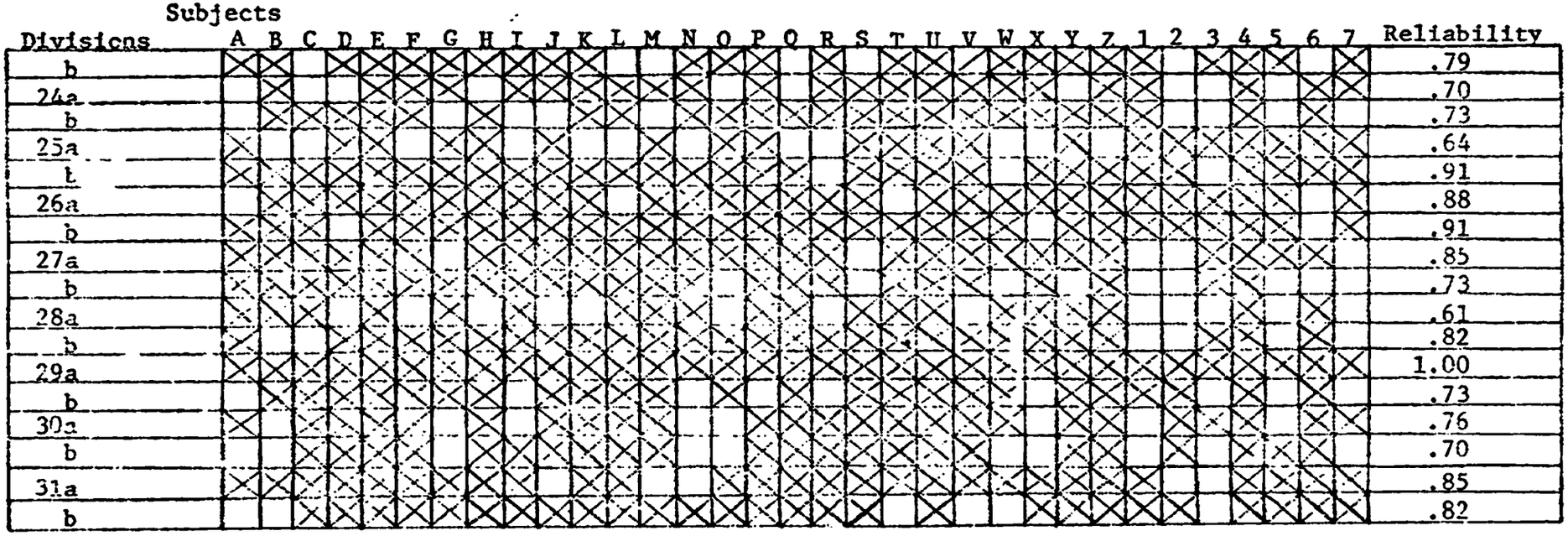


TABLE 16 (cont.)

RELIABILITY OF THE INSTRUMENT



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* Kreutzkampf, J. and C. Kiefer. Status of Vocational Education Research and Development Activities in Minnesota 1968-1970: An Annotated Bibliography. June 1971.

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* Kiefer, C. The Need for Vocational Education Teachers in Minnesota. 1972.

* [Several editions of a newsletter, News and Reviews, are also available.]

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* Single copies of these publications are available, free of charge, from the Minnesota Research Coordinating Unit for Vocational Education. The other publications listed are available in either hardcopy or microfiche form from Central ERIC.